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ABSTRACT

This qualitative study determined the behaviors and strategies used by 12 high potential, middle school students when they did not feel challenged in school. Teacher reaction to these behaviors was also documented. Data analysis revealed that these students engaged in the following behaviors: (1) selective attention, (2) focused curricular involvement, (3) involvement with others, (4) participation in extracurricular activities, (5) and lack of effort/selected effort. Few teachers associated these behaviors with a lack of challenge, and those that did recognize the behaviors did not attempt to differentiate the learning process for the students. Discussion focuses on the nonconstructive characteristics of most of these student behaviors and difficulties of providing differentiated instruction in heterogeneous groups. (Contains 31 references.) (Author/DB)

Academic Survivability in High Potential, Middle School Students

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Abstract

Although researchers have found that students of all ability levels are bored in school, high potential students are specifically affected by a lack of challenge in the classroom. Few studies have investigated the behaviors in which high potential students engage when they are not challenged, and these studies are either of limited focus or did not include middle school students in their sample. Qualitative methodology was used to determine the behaviors and strategies used by 12 high potential, middle school students when they did not feel challenged in school; teacher reaction to these behaviors was also documented. Data analysis revealed that these students engaged in the following behaviors: selective attention, focused curricular involvement, involvement with others, participation in extracurricular activities, and lack of effort/selected effort. Few teachers associated these behaviors with a lack of challenge, and those that did recognize the behaviors did not attempt to differentiate the learning process for the students. Directions for further research are suggested.

Academic Survivability in High Potential, Middle School Students

The fact that high potential students face a higher level of boredom in school than their peers has been reported in the research and educational literature (Feldhusen & Kroll, 1985; Galbraith, 1985; Kunkel, Chapa, Patterson, & Walling, 1992; Sisk, 1988), although "support for the boredom hypothesis is anecdotal or the accepted tenets of the field of gifted education" (Feldhusen & Kroll, 1991, p. 80). Recent studies have found that students of all levels of ability are bored in school, with a lack of challenge in the classroom being responsible for the boredom of high potential students (Feldhusen & Kroll, 1991; Reis & Purcell, 1993) as opposed to the general lack of interest afflicting the student population at large (Mitchell, 1993). This "lack of challenge" is probably due to several factors, including the "dumbed down" curriculum and a lack of differentiation for high ability students in the regular classroom.

"Dumbed Down" Curriculum

The "dumbed down" curriculum is caused primarily by a declining level of difficulty and increased repetition in textbooks and the curriculum (Elliot, Nagel, & Woodward, 1986; Flanders, 1987; National Research Council, 1989; Reis & Purcell, 1993; Taylor & Frye, 1988; Usiskin, 1987). For example, using a variety of methods to measure textbook difficulty, Chall and Conard (1991) found that the level of textbook difficulty has gradually decreased over the past 30 years. Kirst (1982) estimates that texts have dropped at least two grade levels in rigor during the past decade. Inferior textbook quality has an effect upon the learning of *all* students, but high potential students are the most seriously affected because school systems minimize costs by purchasing the same textbooks for all students; these textbooks are usually aimed at low- to mid-level achieving students (Bernstein, 1985).

The National Research Council (1989), in a report on the condition of mathematics education in the United States, reported that the typical, American math curriculum is "an 'underachieving' curriculum that follows a spiral of almost constant radius, reviewing each year so much of the past that little new learning takes place" (p. 45). Indeed, Reis et al. (1993) found that teachers could

eliminate from 26 to 66% of the curriculum for high potential students *without a resultant decline in achievement.*

Lack of Meaningful Differentiation

The other major factor contributing to the lack of challenge for high potential students is the absence of differentiation in the regular classroom. In two related studies (Archambault et al., 1993; Westberg, Archambault, Dobyns, & Salvin, 1993), researchers from the National Research Center on the Gifted and Talented found that classroom teachers differentiated the curriculum for high potential students only 12% of the time they were observed. When differentiation did occur, modifications were minor at best.

The lack of challenge for high potential students in the regular classroom may be the primary cause of the tendency of high potential students to fail to maintain the positive attitudes toward school which they had at the start of their formal education (Feldhusen & Kroll, 1991). The few studies that have examined student responses to lack of challenge suggest that students actively seek stimulation, although the research has either been limited in their focus or has concentrated on the experiences of high school students. Hilliard's (1993) qualitative study of five highly creative adolescents identified daydreaming/creative imagery and participation in extra- and co-curricular activities as strategies used to alleviate boredom and lack of challenge. In an investigation of the significance of extracurricular activities, Ethier (1993) found that students of all ability levels frequently mentioned alleviation of boredom as a benefit of participation in extracurricular activities. Csikszentmihalyi, Rathunde, and Whalen (1993) found that high school students in the classroom "did not want to do what they were doing" 75% of the time, and the remaining quarter of the time they spent "talking with classmates, falling asleep, daydreaming, or planning the next free period" (p. 180). Extracurricular activities were also mentioned as experiences during which students were both satisfied with where they were and were concentrating on the activity.

Students may use other strategies in addition to daydreaming and extra- and co-curricular activities in order to satisfy their needs for challenge. In order to meet the needs of high potential, middle school students, the following questions need to be answered: What behaviors are

exhibited by high potential students who are not sufficiently challenged in middle school classrooms? Are student responses to lack of challenge constructive, long-term solutions or short-term, non-constructive strategies? What teacher responses are observed when high potential, middle school students respond to a lack of challenge?

Method

Sample

Seven female and five male students, attending 5th through 9th grade and previously identified as gifted by their school districts, were involved in this study. The sample included two African American students, an Hispanic American student, and an Asian American student, with the remainder being Caucasian. The subjects were selected from a group of families that had volunteered for a study of adjustment issues in high potential, adolescent students. The selection was based upon stated, student opinions that they were not challenged in school.

Data Collection

Using naturalistic methods suggested by Lincoln and Guba (1985) and Patton (1990), investigators conducted intensive interviews and observations of the students, both in school and during extra-curricular activities. They also interviewed other people in the child's life, including parents, siblings, peers, teachers, other relatives, and school administrators, to obtain a comprehensive profile of the child's educational experiences. Over 180 interviews and 50 observations occurred over a 12 month period.

Results and Discussion

The students involved in this study exhibited a number of behaviors and strategies when not challenged in the regular classroom, including selective attention, focused curricular involvement, involvement with others, participation in extracurricular activities, and lack of effort/selected effort in academic settings.

Selective Attention

Many of the students used a strategy of "selective attention" in which they appeared not to be paying attention to the teacher and lesson and/or discussion, yet they could answer questions or

begin to pay attention seemingly at will. For example, rather than concentrating on the lesson in history class, Juan read books that were not related to the class. He appeared to be ignoring his teacher and peers, yet when the discussion moved to a topic which he found interesting and challenging, he quickly became involved. When the topic changed again, he immediately returned to his personal reading material. Sally exhibited selective attention in math class -- as the rest of the class argued with the teacher about assignments and homework problems, Sally appeared to be completely inattentive. Yet during a boardwork activity later in the same class period, Sally suddenly got up from her seat and answered a problem on the board then returned to her seat and appeared to become inattentive again. Selective attention was observed in diverse settings: In addition to using selective attention in the regular classroom, Nick usually read a book while eating his lunch, occasionally entering into a conversation with his best friend, who was also reading. The pair frequently diverted attention from their books to conversation back to their books.

One student exhibited an especially well-developed, selective attention behavior. Alex, a ninth grader in a large, urban high school, was observed writing a note to a friend, answering a classmate's question, joking with another peer, writing an assignment for another class, and reading his textbook, yet he also was the first student to raise his hand and call out an answer when a question was asked. After he answered the question, he would return to his numerous, other activities, only to immediately raise his hand when another question was asked a few minutes later.

Patterns emerged with respect to the activities in which the students engaged when not focusing on the lesson. Nearly every adolescent was observed reading magazines or books of his or her own choosing during classtime. The topic of the reading material varies. For example, Juan frequently reads books dealing with the paranormal, which he finds to be controversial and interesting, while another student reads his textbook from history class (which he enjoys) during his science class. Other frequently observed activities include drawing/doodling, completing homework assignments, and "daythinking." Daythinking is more focused than daydreaming and occurs when a student focuses on an issue or problem and begins to contemplate the issue and ignore his or her surroundings. For example, when one student became bored during social

studies class, she looked at a picture from Somalia in *Time Magazine* then proceeded to look out the window of the classroom and contemplate what she had just seen. Nick also tended to "tune everyone else out," and he usually fidgeted and played with his watch and pencils while visually focusing on nothing in particular.

Focused Curricular Involvement

A more direct response to lack of challenge was manifested in the actions of students who strove to increase the challenge level through their own efforts. For example, one of Jenny's main academic goals is to "try to make [classes which are not difficult] a challenge." Depending on the situation, she tried to perfect her note-taking ability, see how many problems she could get right, or tried to answer as many questions as possible.

Many students were observed in similar situations as that of George, who would frequently attempt to engage his teachers in discussion that was far more complex than they had intended. For example, when his social studies class analyzed a newspaper article, George debated his teacher as to which constitutional amendment was most germane to the class discussion. Another student had herself switched from her math class, in which she had an A+ average, to a more advanced pre-algebra class. The class change, which necessitated a complete overhaul of her schedule more than 6 weeks into the school year, was justified because the young woman felt that her initial class was "going nowhere." These students attempt to take a situation which they perceive to be boring and uninteresting and make it a more challenging learning experience.

Involvement with Others

The students frequently sought intellectual stimulation in peers (especially those who were humorous and/or of similarly high potential) and teachers. These interactions occurred both in the classroom and during extracurricular activities.

Peers. Certain students appeared to rely on their academically talented friends quite often. Nick and Juan both had only one good friend, and they spent a majority of their time with that friend. When discussing peer relationships and interactions, one student remarked that:

> Gifted students I have the best time with, and the other kids are just kids that I like a lot. I never really thought about it before, but...most of the kids I hang around with a lot are gifted, and then the ones I don't [hang around with] aren't that smart.

High potential students would often finish their work before the other students and then work with their classmates on the assignments. Nick's teacher routinely asked him to tutor his classmates whenever he finished an assignment early or did not need to study during class, and John took this interaction with his peers a step further by volunteering to work with mildly retarded students during his free time (of which there was an abundance). During one observation, less than four minutes elapsed from the time George entered the classroom until he completed his quiz. Thirteen minutes later, he finished the in-class assignment and then spent the remainder of the period tutoring other students.

Teachers. Many of the students' actions and/or statements indicate a preference for interacting with adults, especially their teachers. Juan would frequently stay after his science class to discuss scientific issues and articles from *Scientific American* with his teacher. In the words of Emma's teacher, she is " always excited about ideas that would spontaneously come into her mind and then share them with me immediately. You know and then keep me followed up on it throughout the day....I felt this was a positive thing, this instant feedback." Alice and some of her peers occasionally visit their former teachers before school begins, even though some of them are in a different building.

Humor. Joking and other ways of injecting humor into the classroom are not limited to high potential students, but sometimes these students can be disruptive through their efforts to stimulate themselves intellectually. Karen leaned on her arm and daydreamed while her classmates went over a homework assignment with the teacher. Although she was the only student who was not raising his or her hand to volunteer and answer, the teacher called on her. After Karen answered the question correctly, she leaned back in her chair and flipped her long hair onto the desk of the student sitting behind her. The student, whose book was covered with Karen's hair, replied theatrically, attracting the attention of others and disrupting the class. Later, when Karen was

asked about the incident, she replied that sometimes the teacher laughed when she flipped her hair like she did during the class. During that same class period, when the teacher announced that she was going to give the students something that was a little harder, Karen held up a clenched fist, shook it emphatically, and exclaimed, "Yes!"

Extracurricular activities

All of the student are involved in cocurricular (e.g., International Baccalaureate program, NSF science camps, science clubs, Center for Talented Youth programs, student government, summer programs for high potential students, school band) and/or extracurricular activities (e.g., athletics, private dance and music lessons, church programs). Each of the students expressed a need to be involved in activities outside of the classroom in order to maintain interest and challenge in their lives.

In one case, an interesting relationship between cocurricular and extracurricular activities became apparent. Juan, partially in an effort to supplement classroom curriculum that he found to be lacking in depth and challenge, was heavily involved in cocurricular activities, including church programs, foreign language lessons, afterschool academic clubs, and music lessons. However, these activities took up a great deal of his time and energy. He remarked that playing basketball was enjoyable because it was a respite from his other numerous activities. In a way, Juan had overextended himself in order to be more intellectually challenged and needed a non-cocurricular activity to relax and relieve stress.

Lack of Effort/Selected Effort

In practice, teachers often wonder why students of high ability perform poorly. In this sample, the academic performance of four students was adversely affected by a lack of challenge in the classroom. In science/library class, Emma routinely met the bare minimum standards rather than expend effort on something she already knew how to do. Alice found geometry to be very easy, and she felt frustrated when she was required by her teacher to perform each problem step-by-step even though she already had internalized the process. Nick's English teacher repeatedly criticized his ability and commitment, both in class and during interviews, because she felt that Nick was not

reading the assigned books. Yet he has read voraciously since he was three years old and constantly read his own material during English and his other classes. Karen's math teacher reported that

> She has a wonderful math mind, but she's careless and she doesn't like the routine work at all....Consequently, that's the work that usually she doesn't hand in to me. The work that everybody just whips out seems to take her forever and a day.

For these four students, their lack of effort can be interpreted as a sign that they do not feel adequately challenged and, as a result, do not feel that 'sweat equity' is justified.

Teacher Response to Observed Behaviors

In the course of the study, we observed teachers who recognized certain behaviors of high ability learners as efforts to add challenge to the classroom experience. One of these teachers was a seventh grade science teacher, who described a situation in which a student utilized a non-constructive strategy to increase her level of challenge.

> If [Karen]'s reading an interesting book (she did this a couple of days ago), ...I don't get too concerned about it.... We were talking about the nucleus of a cell. She's already read it. We hadn't gotten into the interesting stuff yet which was genetic engineering and cell splitting and stuff...so she sits there and reads a book, knowing that if I have a quiz on it the next day, she'll probably make a low grade, but the point is she wants to read a book.

If this teacher was correct that Karen had already read the material and had a decent grasp of it, the teacher could have compacted the material into a brief review and allowed her to work on an extended project with the saved time, or he could have provided some other form of modification to meet her academic needs. On the other hand, there may have been some reason why modification by the teacher was impossible or at least problematic. Karen's reading might have only occurred once, and there was no way to predict or prepare for it. The teacher seemed to recognize what was going on in the mind of the student, but for some reason he did not adapt his instruction or her curriculum accordingly.

We also saw evidence of teachers who *did not* recognize when high ability learners were seeking to stimulate themselves intellectually. In these circumstances, teachers discouraged students from non-productive activities but did not provide suitably challenging alternatives. Nick, when he felt bored, occasionally attempted to work independently in a basal reader. Each time he was 'discovered,' the teacher directed him to another activity, and he would begin to play with his watch or daydream. Incidentally, this teacher appeared to feel that Nick's work was acceptable; she was never observed offering comments or suggestions about the substance of his work, only criticisms about neatness and his general organizational ability. For example, he completed a poem well ahead of the other students (Figure 1), but his teacher made him redo it because his lines were slanted.

Insert Figure 1 about here

Although neither the student reading her book in class nor the student working in the basal reader were engaged in activities which would have a long-term, positive impact upon the level of challenge in their school work, the response of the science teacher was more appropriate than the response of the language arts teacher. The science teacher was allowing the student a sense of control and self-efficacy: Karen, whose desire for challenge was recognized and accepted by her teacher, experienced more learning as well as more support. The work of straightening the lines of a poem presented no opportunity for learning, whereas Nick might have learned something from the basal reader or some other activity of his own choosing.

Conclusion

The behaviors and strategies enumerated by Hilliard (1993), Ethier (1993), and Csikszentmihalyi, Rathunde, and Whalen (1993) were also found in the high potential, middle school students involved in this study. Students were also observed using additional techniques and exhibiting other behaviors, such as involvement with others, selective attention, focused

curricular involvement, and lack of effort/selected effort, when they were involved in a classroom or more general academic situation in which they were not being challenged.

Feldhusen and Kroll (1991) believe that "Gifted students who are not challenged with appropriate curricula and teaching strategies lose their motivation to learn and become underachievers (p. 81)." Most of the high potential, middle school students involved in this study have not encountered the serious motivation problems mentioned by these authors, although a few of them have begun to show indications of future difficulty. For example, Alice, who has just entered ninth grade, appears to use her coping strategies much less frequently -- she now sleeps in class when she previously would have done her homework or read a book.

Alice's behaviors are similar to those found in high school settings by Csikszentmihalyi, Rathunde, and Whalen (1993), although in general the strategies and behaviors of the students in this study were much more proactive, if often non-constructive, with respect to maintaining intellectual stimulation in an academic setting. When the two studies are considered collectively, a gloomy picture of declining student motivation and academic effort emerges as high potential students move from middle school to high school.

Constructive or Non-constructive?

For the purposes of this discussion, a constructive behavior or strategy directly deals with a problem and attempts to remove or neutralize it. Conversely, a non-constructive behavior or strategy indirectly deals with the problem by attempting to alleviate the symptoms of the problem. As a result, the problem remains a part of the individual's life. These non-constructive behaviors are high potential students' best efforts to intellectually self-stimulate but do not increase the level of stimulation and challenge provided by their present school experiences.

Unfortunately, most of the student behaviors and strategies in response to a lack of challenge in an academic setting were non-constructive -- interacting with peers, involvement in extracurricular activities, selected attention, and (most extremely) lack of effort/reduced effort all fail to change the lack of challenging material. Only the students attempting direct, focused involvement in the classroom and interacting with teachers were actively seeking to change their academic

environment. Tragically, other research and experience in the schools indicates that the students will find long-term modification of their classrooms to be difficult and exhausting.

Interventions

From a pragmatic perspective, the suggestion that *all* students can be challenged *all* the time in a classroom is difficult to accept, especially with the elimination of homogeneous ability grouping. Numerous teachers bemoaned the fact that they would love to differentiate the classroom experience for these high potential students but did not have the time and other resources to meet the diverse needs of every child in the classroom. Nevertheless, research clearly shows that schools and teachers can make a difference with respect to increasing the level of challenge (Csikszentmihalyi, Rathunde, & Whalen, 1993; Delcourt, Loyd, Cornell, Goldberg, & Bland, in press; Reis et al., 1993). Because of the non-constructive nature of most of the coping behaviors observed in this study, middle school educators need to be able to identify students who are not being challenged and intervene before student motivation is adversely affected.

Considering the social stigma associated with being gifted and/or talented at the middle school level (Callahan, Cunningham, & Plucker, 1993; Coleman & Cross, 1988; Cross, Coleman, & Stewart, 1993), these students should not be expected to "stand up for themselves." With the exception of Emma, the other students were quite reserved -- many teachers were surprised to find out that the students were bored in the classroom. When asked if a certain student ever told or otherwise signaled the teacher that he was bored or not challenged, the teacher replied that the student "was raised better than that," implying that student response to lack of challenge could be interpreted as a criticism of the teacher. Middle level educators should be aware of behaviors that may signal a lack of challenge and should be cognizant of the various curricular, programming, and instructional interventions that can be used to construct developmentally appropriate learning environments and experiences for high potential students.

A wide variety of interventions have been suggested for differentiating the curriculum for high potential students (Maker, 1982; Renzulli, 1988). Programming options range on a continuum

from enrichment to acceleration, including combinations and modifications of both techniques, such as curriculum compacting (Reis, Burns, & Renzulli, 1992; Starko, 1986).

The differentiation of the curriculum by teachers is the preferable intervention when a high potential student is not challenged in the classroom. Teachers have the abilities, resources, and skills to maximize the learning of middle school children. Although the literature recommends neither student-selected non-productive activities nor work which covers material the student has already mastered, middle school teachers may have to choose one of these poor choices. Our observations lead us to believe that student-led, non-constructive activities and behaviors, while not preferable to a sustained level of challenging curriculum within the classroom, are preferable to teacher-led, non-constructive activities.

Future Directions

Replication of results with a larger sample and quantitative methodology will provide valuable information for modifying and/or confirming the behaviors and relationships found in this study. The educational experiences of younger children should be investigated in order to determine the nature of their behaviors with respect to lack of challenge. More involved research on selective attention behaviors will also help researchers and educators to achieve a greater understanding of this phenomenon and further reveal the cognitive response to lack of challenge in high potential students.

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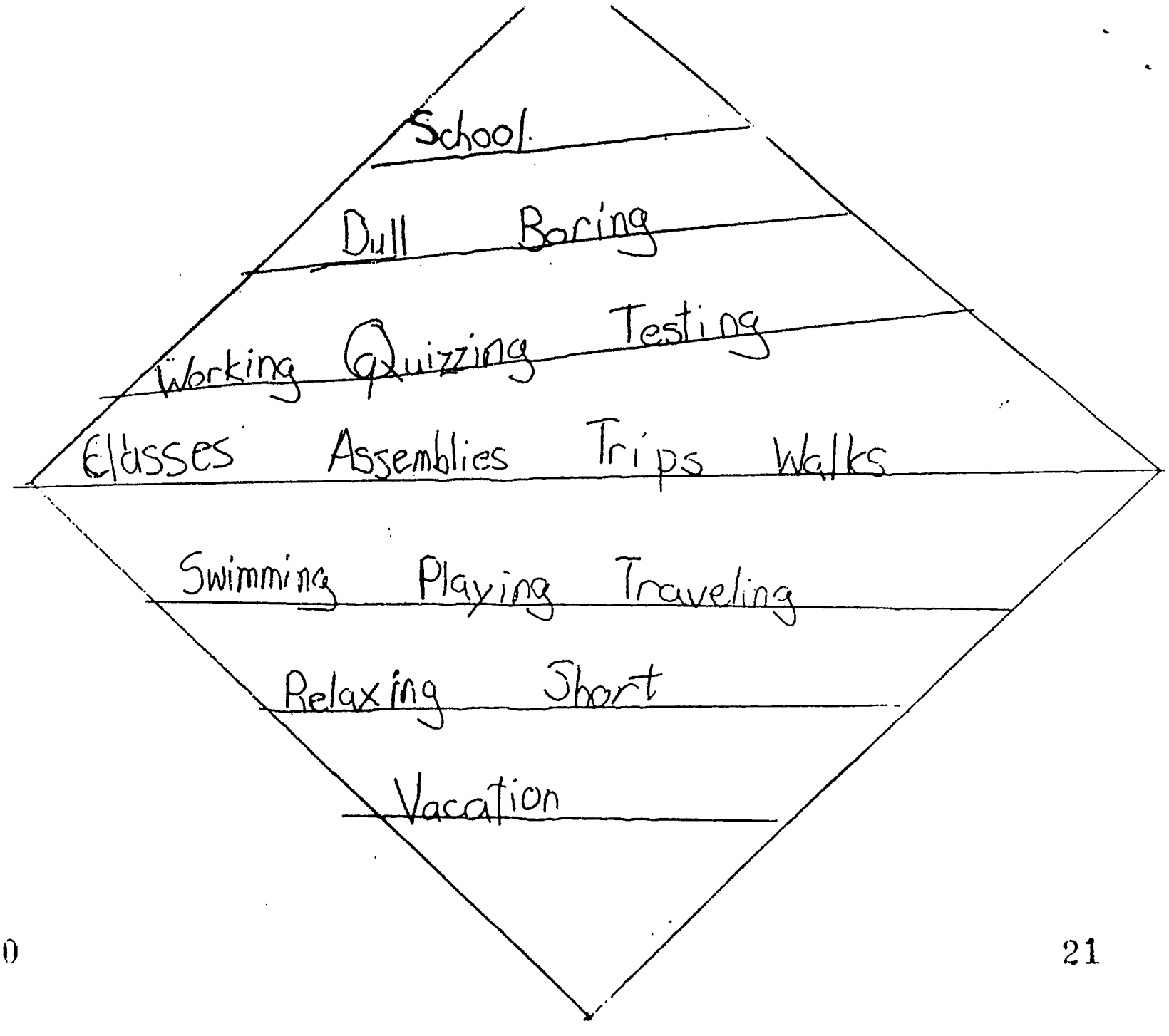
Figure Caption

Figure 1. Nick's "unevenly lined" poem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